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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/381,588	09/20/1999	STEVEN JAMES SHATTIL	022950PCTUS	4149

7590 05/13/2003
STEVE SHATTIL
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BOULDER, CO 80303

EXAMINER

BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 05/13/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

11

Office Action Summary

Application No.

09/381,588

Applicant(s)

SHATTIL, STEVEN JAMES

Examiner

Kevin M Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 20 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 44-94, 102, 103, 107-109 and 111 are rejected under 35 U.S.C. 102(b) as being anticipated by Hershey et al (US 5,563,906).

Regarding claims 44-46, 51, 54-58, 62-76, 82-84, 87-94, 102, 103 and 111, Hershey discloses a method and apparatus for transmitting a multiple access signal (CDMA). The system supports a number of simultaneous users (column 4, lines 30-35). The tones in the preamble are combined and each tone has a phase value (column 2, lines 48-58). In the receive unit, the proper phase is detected (column 2, lines 48-58) and this signal is the desired signal for the particular receive unit. This transmission signal is a carrier interference multiple access signal.

Regarding claim 47, the phase values are not the same as shown in column 2, lines 48-58).

Regarding claims 48, 49 and 81, all of the spread user signals will interfere with one another. At the receiver the desired signal is mixed with its spreading code to recover the desired signal free of the interfering signals. The signals to be transmitted are modulated.

Regarding claims 50, 52, 77-79, 85 and 86, the signals to be transmitted are modulated. The user signals are combined and occupy at least one nonzero phase space (column 2, lines 48-58).

Regarding claims 53 and 80, the signals have the phases shown in column 2, lines 48-58.

Regarding claims 59-61, the spread spectrum signals overlap and when mixed with the spreading code at the receiver, the user signal is recovered.

Regarding claims 107-109, Hershey discloses a method and apparatus for transmitting a multiple access signal (CDMA). The system supports a number of simultaneous users (column 4, lines 30-35). The tones in the preamble are combined and each tone has a phase value (column 2, lines 48-58). In the receive unit, the proper phase is detected (column 2, lines 48-58) and this signal is the desired signal for the particular receive unit. This transmission signal is a carrier interference multiple access signal. The signals to be transmitted are modulated. The user signals are combined and occupy at least one nonzero phase space (column 2, lines 48-58).

2. Claims 95, 96, 100 and 101 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al (US 4,912,422).

Regarding claims 95, 96, 100 and 101, Kobayashi discloses a method and apparatus for processing a received signal. The time domain signal is converted to a frequency domain signal. The frequency domain signal is filtered to remove components of the signal. The filtered frequency domain signal is converted to a time domain signal. The new time domain signal is sent to down stream components (column 2, lines 1-39). The method and apparatus removes unwanted components of the signal.

3. Claims 97-99 and 104-106 are rejected under 35 U.S.C. 102(e) as being anticipated by Liedenbaum et al (US 5,691,832).

Regarding claims 97-99 and 104-106, Liedenbaum discloses individually modulated signals modulated on their own carriers are added together to generate a combined signal. This combined signal is eventually filtered to select one of the carriers. The selected signal will contain information symbols (column 1, lines 43-51)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 110 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey et al (US 5,563,906) in view of Kobayashi et al (US 4,912,422).

Regarding claims 44-46, 51, 54-58, 62-76, 82-84, 87-94, 102, 103 and 111, Hershey discloses a method and apparatus for transmitting a multiple access signal (CDMA). The system supports a number of simultaneous users (column 4, lines 30-35). The tones in the preamble are combined and each tone has a phase value (column 2, lines 48-58). In the receive unit, the proper phase is detected (column 2, lines 48-58) and this signal is the desired signal for the particular receive unit. This transmission signal is a carrier interference multiple access signal. Hershey does not disclose using a FFT to convert the signal to a frequency domain signal and an IFFT to convert the signal back to a time domain signal. Kobayashi discloses a time domain signal is converted to a frequency domain signal. The frequency domain signal is filtered to remove components of the signal. The filtered frequency domain signal is converted to a time domain signal. The new time domain signal is sent to down stream components (column 2, lines 1-39). The method and apparatus removes unwanted components of the signal. Therefore it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate Kobayashi's method of removing unwanted components of a signal into Hershey's communication system to remove interfering components from a desired signal.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Art Unit: 2631


or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Kevin M. Burd
PATENT EXAMINER
4/29/03


CHI PHAM
SUPERVISORY PATENT EXAMINER
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